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EXAMINER	
LE, DUY K	

ART UNIT	PAPER NUMBER
2685	5

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/730,121	GAGE ET AL.	
	Examiner	Art Unit	
	Duy K Le	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to amendment filed on December 31, 2003.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Robert et al. (U.S. Patent 6,104,712).

As to claim 1, the Robert reference discloses a method for transmitting data to a mobile device, comprising:

receiving location data from the mobile device ("the migratory node further includes a geolocation detector that locates the instantaneous position of the node" (Col. 2, lines 51-53). "For example, migratory node 107 is in a car traveling north" (Col. 4, line 67 to Col. 5, line 1). "The inventive system allows end-to-end transparent communication between and among voice, video or data terminals moving about a region along with individuals" (Col. 1, lines 9-13)); and

encapsulating a data packet in an encapsulation packet, the encapsulation packet having a destination address corresponding to the location data ("A destination MNID field 307 has x, y and z coordinate fields 308, 309 and 310 respectively. The destination MNID indicates the

intended destination MAN for a particular radio communication link" (Col. 11, lines 21-25); Figure 3);

determining at least a portion of a network path to the device based on the location data ("an originating node, prior to transmission of a message, may determine possible nodal or packet routes to a destination" (Col. 18, lines 10-11). "The information packet containing position information is broadcast with a predetermined periodicity to pass along information that is used for routing packets through the network" (Col. 18, lines 16-19));

decapsulating the encapsulated data packet at a network switch ("the CPU compares the receiving MANs MNID to the MNID in the destination MNID field 307. If they are the same, the data packet has reached its final destination, so the CPU switches to a module, which generates and transmit a network ACK packet 500" (Col. 14, lines 18-22)); and

transmitting the data packet to the mobile device ("if the received data packet hasn't reached its destination, it must be retransmitted" (Col. 14, lines 25-26). "The CPU places the new location for the destination MAN from the lookup table into the destination MNDI field of the corresponding packet stored in RAM" (Col. 14, lines 29-32)).

As to claim 2, the Robert reference discloses the method according to Claim 1, further comprising the steps of:

storing a first mapping between a unicast address of the mobile device and the location data corresponding to the device ("lookup tables containing ID and associated position information" (Col. 19, lines 21-22));

receiving a data packet from a terminal, the data packet including the destination address of the mobile device ("FIG.13 illustrates a data packet 2100 identifying the pertinent fields

within a data packet" (Col. 20, lines 8-9). "The destination MNDI is indicated in a destination MNID field 1314. Each MNID has a four octet x coordinate, four octet y coordinate and a four octet z coordinate" (Col. 20, lines 34-36)); and

using the first mapping to determine the location data of the device based on the destination address of the device ("the MAN ID used within the network is an IP address to facilitate addressing and routing of internet traffic resolution" (Col. 19, lines 61-63). "A database is used to correlate a MANs location with the MAN ID (e.g., IP address)" (Col. 20, lines 6-7)).

As to claims 3, 6, 11, 16, 21, and 25, the Robert reference discloses that the location data is comprised of a routing domain ("the MAN ID used within the network is an IP address to facilitate addressing and routing of internet traffic resolution" (Col. 19, lines 61-63). "A database is used to correlate a MANs location with the MAN ID (e.g., IP address)" (Col. 20, lines 6-7). As interpreted by the examiner, the IP address of the MAN ID provides information on a routing domain).

As to claims 4, 12, and 22, the Robert reference (Figure 3) discloses that the location data is comprised of global positioning data ("A destination MNID field 307 has x, y and z coordinate fields 308, 309 and 310 respectively" (Col. 11, lines 21-23) which are GPS or global positioning data).

As to claims 5, 15, and 24, the Robert reference discloses that the determining function comprises of evaluating or retrieving a second mapping, the second mapping having the location data corresponding to the device and a respective multicast address to be used as the destination address of the encapsulation packet ("a source node may broadcast a network packet and all nodes receiving the packet will either capture, respond or forward that packet depending on the

nature of the ID, control, and/or information content" (Col. 10, lines 57-60). As cited in claim 2, there are lookup tables (mapping) containing ID (MAN address) and associated position information. As interpreted by the examiner, all receiving nodes (or devices) have a broadcast (or multicast) address that a source node put in a network packet that includes location data. Thus there is a mapping of the broadcast (multicast) address and associated position information).

As to claims 7, 17, and 26, the Robert reference discloses that the determining function comprises:

storing a second mapping, the second mapping having a location data range corresponding to network switches supporting a respective coverage zone and at least one communication interface to be used to transmit the encapsulation packet ("the CPU looks up the receiving MAN in a lookup table to determine it is in a high MAN density area" (Col. 14, lines 51-52). "The CPU determines the distance to the destination MAN using the MAN's current location, read from a register in the PLI, and the destination MAN's MNID or location. If the distance is greater than the distance (e.g., fifty miles) a signal can be expected to travel, then the distance is set to fifty miles" (Col. 14, line 64 to Col. 15, line 3). "In this way intermediate hops/links can be set up and executed" (Col. 15, lines 4-5). "The CPU calculates the direction to the destination MAN and moves the antenna to point in this direction. The CPU moves the data packet that was stored in RAM to a register in the transmitter transmitting the packet" (Col. 15, lines 8-12). As interpreted by the examiner, the distance corresponds to a location data range to a destination MAN (or network switch) in a particular area); and

evaluating the second mapping to determine the at least one communication interface to be used to transmit the encapsulation packet based on the location data range which includes the

location data ("if the distance is greater than the distance (e.g., fifty miles) a signal can be expected to travel, then the distance is set to fifty miles" (Col. 14, line 66 to Col. 15, line 3). "In this way intermediate hops/links can be set up and executed" (Col. 15, lines 4-5). "The CPU calculates the direction to the destination MAN and moves the antenna to point in this direction. The CPU moves the data packet that was stored in RAM to a register in the transmitter transmitting the packet" (Col. 15, lines 8-12)).

As to claims 8, 18, and 27, the Robert reference discloses that the location data range is a range of global positioning coordinates and the location data includes global positioning data ("The CPU determines the distance to the destination MAN using the MAN's current location, read from a register in the PLI, and the destination MAN's MNID or location" (Col. 14, line 64-66). As interpreted by the examiner, the distance corresponds to a location data range to a destination MAN. As cited in claim 4, the MAN's MNID or location is global positioning data).

As to claim 9, Figures 1 and 2 in Robert show a system for transmitting data across a communication network from a terminal to a mobile device, the system comprising:

at least one first router having at least one communication interface, the at least one communication interface receiving location data from the mobile device ("Data is passed to and from the PLI 220 via the data bus 230. Using GPS or other geolocation systems, the PLI identifies the location of the migratory node" (Col. 6, lines 41-43). As interpreted by the examiner, Figure 2 shows a migratory access node that comprises a mobile or data terminal and a router and is described as "Migratory "black box" autonomous nodes, whereby individuals possessing such a node device may communicate with each other and/or permit their node devices to relay messages transgressing the migratory network" (Col. 1, lines 30-34)); and

at least one second router having:

at least one communication interface, the at least one communication interface receiving the location data from the at least one first router and receiving a data packet from the terminal, the data packet including a unicast address of the mobile device ("FIG.6 identifies the major fields of an information packet 600, which includes addressing, location and identification data. The purpose of the information packet is to inform neighboring MANs of the transmitting MANs movement being transmitted at a predetermined frequency. MANs which receive this packet store the new location for the moving MAN" (Col. 12, lines 54-62). The MAN ID 611 contains an IP (or unicast) address of the moving MAN); and

a central processing unit (250, Figure 2), the central processing unit executing functions including:

determining at least a portion of a network path to the device based on the location data ("the packet route field 1305 (Figure 13) is a concatenation of MNIDs the packet will traverse in the end-to-end route" (Col. 20, lines 20-21). "The specific sequence of concatenated MNIDs is calculated by processor 250 according to a preferred or best route to x, y, z coordinates of respective MANs between the source and destination" (Col. 20, lines 25-28)); and

using the portion of the determined network path to send, via the at least one communication interface, the data packet to the at least one first router which received the location data from the device ("the first MNID sends the packet to the next MNID, which sends the packet to the destination MNID. The destination MNID is indicated in a destination MNID field 1314" (Col. 20, lines 32-36)).

As to claims 10 and 20, the Robert reference discloses that the at least one second router or the network switch further comprises a storage unit (280 and 440 in Figure 2) and wherein the central processing unit 250 further executes a function including storing a first mapping in the storage unit between the unicast address corresponding to the mobile device and the location data corresponding to the device ("The CPU controls memory access to the NVRAM 280, RAM 290 and the optional hard drive 300 and the optional database 400 residing therein" (Col. 6, lines 60-62). Each MAN stores "lookup tables containing ID and associated position information" (Col. 19, lines 21-22)).

As to claim 13, the Robert reference discloses the system according to Claim 9, further comprising a location updating unit 250 (Figure 2), the location updating unit receiving the location data from the at least one first router and transmitting the location data to the at least one second router ("FIG.6 identifies the major fields of an information packet 600, which includes addressing, location and identification data. The purpose of the information packet is to inform neighboring MANs of the transmitting MANs movement being transmitted at a predetermined frequency. MANs which receive this packet store the new location for the moving MAN" (Col. 12, lines 54-62). "The CPU determines the data packet field contents and assembles them in RAM to generate an entire data packet" (Col. 17, lines 7-9). "The data packet is transmitted in response to a received data packet 300 either from another MAN or the packet network entry point" (Col. 17, lines 10-12). "The CPU writes the corresponding MNID value (location data) from the lookup table into RAM corresponding to the destination MNID field 307" (Col. 17, lines 36-38)).

As to claims 14 and 23, the Robert reference discloses that the central processing unit in the at least one second router further executes a function including encapsulating the data packet in an encapsulation packet, and wherein the at least one first router decapsulates the data packet ("The CPU determines the data packet field contents and assembles them in RAM to generate an entire data packet" (Col. 17, lines 7-9). As interpreted by the examiner, the CPU in the source MAN (second router) encapsulates the data packet. "The source MNID sends the data packet to the first MNID. The first MNID sends the packet to the next MNID, which sends the packet to the destination MNID. The destination MNID is indicated in a destination MNID field 1314" (Col. 20, lines 31-36). "Each migratory node removes its own MNID when it transmits the data packet" (Col. 20, lines 44-46). As interpreted by the examiner, removing MNID is functionally equivalent to decapsulating the data packet).

As to claim 19, the Robert reference discloses a network switch for a communication network in which the network switch facilitates communication between a device and a terminal coupled to the communication network, the network switch comprising:

at least one communication interface, the at least one communication interface receiving location data corresponding to the device and receiving a data packet from the terminal, the data packet including a destination unicast address of the device ("Data is passed to and from the PLI 220 via the data bus 230. Using GPS or other geolocation systems, the PLI identifies the location of the migratory node" (Col. 6, lines 41-43). As interpreted by the examiner, Figure 2 shows a migratory access node that comprises a mobile or data terminal and a network switch (or router) and is described as "Migratory "black box" autonomous nodes, whereby individuals possessing

such a node device may communicate with each other and/or permit their node devices to relay messages transgressing the migratory network" (Col. 1, lines 30-34)); and

a central processing unit (250, Figure 2), the central processing unit executing functions including:

determining at least a portion of a network path to the device based on the location data ("the packet route field 1305 (Figure 13) is a concatenation of MNIDs the packet will traverse in the end-to-end route" (Col. 20, lines 20-21). "The specific sequence of concatenated MNIDs is calculated by processor 250 according to a preferred or best route to x, y, z coordinates of respective MANs between the source and destination" (Col. 20, lines 25-28)); and

using the portion of the determined network path to send, via the at least one communication interface, the data packet to the device ("the first MNID sends the packet to the next MNID, which sends the packet to the destination MNID. The destination MNID is indicated in a destination MNID field 1314" (Col. 20, lines 32-36)).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,104,712 to Robert et al. in view of Yaron et al. (U.S. Patent 6,496,189).

The Robert reference discloses the network switch according to Claim 19. However, it does not disclose that the data packet includes streaming data. The Yaron reference teaches "streaming data required for rendering three-dimensional terrain images on a remote computer" (Col. 2, lines 13-15) in downloading terrain images from a server to a remote computer via a public network, such as the Internet (Col. 2, lines 26-35).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have the network switch of Robert wherein the data packet includes streaming data, as taught by Yaron, in order to receive and view information in real time.

Response to Arguments

6. Applicant's arguments filed December 31, 2003 have been fully considered but they are not persuasive.

With respect to the newly amended independent claims 1, 9, and 19, the applicants amended the claims to recite "storing coverage zones for at least one network switch in the communication system, the coverage zones defining the geographic scope of coverage for mobile devices supported by each network switch", determining at least a portion of a network path to the device based on the location data "and the coverage zone", and decapsulating the encapsulated data packet at a network switch "supporting the mobile device". The Robert reference does teach or suggest storing coverage zones for at least one network switch in the communication system, the coverage zones defining the geographic scope of coverage for mobile devices supported by each network switch, determining at least a portion of a network path to the device based on the location data and the coverage zone ("a routing MAN, on the

other hand, traverses a predetermined geographical area (e.g., Zone 1) collecting network information to be disseminated to individual MANs, so they can determine end-to-end routes independently. The fixed regional data base node collects network information for a geographical area (e.g., zone 1) from MANs passing within communication range. The fixed database node can disseminate its information and determine routes itself. The routing mobile node can work in coordination with the fixed regional database node collecting network information and relaying to the fixed regional database node to increase efficiency" (Col. 5, lines 34-45); and decapsulating the encapsulated data packet at a network switch supporting the mobile device ("a four-bit migratory access node type field 1210 identifies the type of migratory access node. The available migratory access node types are mobile mobile MAN and routing MAN. The migratory access node MAN is an access node migrating and trying to pass packets along their specified path and generate routes for packets originating at itself. A routing or relay MAN is a migratory access node moving around or roving in a manner to go around a predefined geographical area collecting information packets to get enough information to be capable of generating routes for packets to flow end-to-end over the network. The routing MANs transmit this information as they travel just as mobile MANs do. The routing MAN is necessary to collect routing information from migratory access nodes with their geographical area which are not close enough to other migratory access nodes" (Col. 18, lines 38-53)).

With respect to the newly amended claims 7, 17, and 26, as cited by examiner in the Office Action, the Robert reference teaches or suggests use of coverage zones and location data ranges (see Col. 18, lines 38-53 and Col. 14, line 64 to Col. 15, line 4. "The packet route is a list

of MNIDs specifying the location the corresponding MAN will be at when the MANs come within range of each other" (Col. 25, lines 18-20)).

With respect to claims 3, 6, 11, 16, 21, and 25, the Robert reference teaches the location data is comprised of a routing domain ("FIG. 13 illustrates a data packet 1200 identifying the pertinent fields within a data packet" (Col. 20, lines 8-9). "A packet route field 1305 indicates the end-to-end route the packet will take from source to destination" (Col. 20, lines 14-16). "The packet route field 1305 is a concatenation of MNIDs the packet will traverse in the end-to-end packet route. Prior to transmission, the packet route information is obtained from a database of captured network information (i.e., MAN information via captured information packets) by a roaming routing MAN" (Col. 20, lines 20-25)).

With respect to claims 5, 15, and 24, as cited by examiner in the Office Action, the Robert reference teaches the second mapping having the location data corresponding to the device and a respective multicast address to be used as the destination address of the encapsulation packet ("a source node may broadcast a network packet and all nodes receiving the packet will either capture, respond or forward that packet depending on the nature of the ID, control, and/or information content" (Col. 10, lines 57-60). "Several variations of schemes for providing global position information may be employed. These include using lookup tables containing ID and associated position information derived from a combination of roving MANs and fixed regional databases. Also, each MAN may capture and store locally ID and associated position that is blindly broadcast by autonomously operating MANs in the network. Special routines in a MAN may be invoked by another MAN to search and find via further broadcasts a particular node based on last known position" (Col. 19, lines 19-28)).

With respect to claims 8, 18, and 27, as cited by examiner in the Office Action, the Robert reference teaches the location data range is a range of global positioning coordinates and the location data includes global positioning data ("the CPU determines the distance to the destination MAN using the MAN's current location, read from a register in the PLI, and the destination MAN's MNID or location. If the distance is greater than the distance (e.g., fifty miles) a signal can be expected to travel, then the distance is set to fifty miles for signal transmission calculations, otherwise the distance is left at its true value" (Col. 14, line 64 to Col. 15, line 4). "The packet route is a list of MNIDs specifying the location the corresponding MAN will be at when the MANs come within range of each other" (Col. 25, lines 18-20)).

With respect to newly amended claim 9, as cited by examiner in the Office Action, the Robert reference teaches a first router having at least one communication interface and a coverage zone defining the geographic scope of coverage for mobile devices supportable by the at least one first router, the at least one communication interface receiving location data from the mobile device ("a routing MAN, on the other hand, traverses a predetermined geographical area (e.g., Zone 1) collecting network information to be disseminated to individual MANs, so they can determine end-to-end routes independently. The fixed regional data base node collects network information for a geographical area (e.g., zone 1) from MANs passing within communication range. The fixed database node can disseminate its information and determine routes itself. The routing mobile node can work in coordination with the fixed regional database node collecting network information and relaying to the fixed regional database node to increase efficiency. Referring to FIG. 2, a simplified block diagram of a migratory node 200 is shown" (Col. 5, lines 34-47)).

With respect to claims 14 and 23, as cited by examiner in the Office Action, the Robert reference teaches the central processing unit in the at least one second router further executes a function including encapsulating the data packet in an encapsulation packet, and wherein the at least one first router decapsulates the data packet ("FIG. 11 is a flow diagram describing data flow with respect to the data packet 300. The CPU determines the data packet field contents and assembles them in RAM to generate an entire data packet" (Col. 17, lines 6-9). "The source MNID sends the data packet to the first MNID. The first MNID sends the packet to the next MNID, which sends the packet to the destination MNID. The destination MNID is indicated in a destination MNID field 1314" (Col. 20, lines 31-36). "The packet route 1305 is a forward path of multiple hops to other migratory nodes. The forward path is an ordered list of migratory node hops from source to destination. The packet route will be modified at each migratory nodes because each migratory node removes its own MNID when it transmits the data packet" (Col. 20, lines 40-46)).

With respect to claim 28, as cited by examiner in the Office Action, the Yaron reference teaches a prior analogous art with respect to data streaming ("the present invention to provide methods and apparatus for displaying on a client computer images of ground terrain stored in a remote server, which are conveyed to the client via a network" (Col. 2, lines 7-10), "methods and apparatus for streaming data required for rendering three-dimensional terrain images on a remote computer" (Col. 2, lines 13-15) in downloading terrain images from a server to a remote computer via a public network, such as the Internet (Col. 2, lines 26-35). "It is noted that other scenarios may be included in database 60, such as on-line images from an area of interest. For

example, a route may be used to display a car race, and the points 66 describing the route may be received on-line using a GPS from one of the cars in the race" (Col. 10, lines 52-56)).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duy K Le whose telephone number is 703-305-5660. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Duy Le
March 19, 2004

EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600